BBA

Bioenergetics
(including Reviews on Bioenergetics)
Vol. 1140, No. 3; 8 January 1993

Cumulative Contents

Regular Papers

$\Delta\tilde{\mu}_{H^+}/\Delta\tilde{\mu}_{Na^+}$ exchange ratio in the halobacterial Na^+/H^+-antiporter determined by a simultaneous measurement of ΔpH, $\Delta\Psi$ and Δp*Na*
T. Konishi, N. Murakami and Y. Miyazawa (Japan) 1

Ultrafast pump-probe spectroscopy of the P700- and F_x-containing Photosystem I core protein from *Synechococcus* sp. PCC 6301 (*Anacystis nidulans*)
S. Lin, H. Van Amerongen and W.S. Struve (USA) 6

Energy transfer and primary charge separation in *Heliobacterium chlorum* studied by picosecond time-resolved transient absorption spectroscopy
P.I. Van Noort, D.A. Gormin, T.J. Aartsma and J. Amesz (Netherlands) 15

Flash photolysis study on pharaonis phoborhodopsin from a haloalkaliphilic bacterium (*Natronobacterium pharaonis*)
M. Miyazaki, J. Hirayama, M. Hayakawa and N. Kamo (Japan) 22

A theoretical study on the fluorescence induction curve of spinach thylakoids in the absence of DCMU
B.-D. Hsu (Taiwan) 30

The efficiency of oxidative phosphorylation in potato-tuber mitochondria is different for succinate and external NADH
B.H. Groen, H.G.J. Van Mil, J.A. Berden and K. Van Dam (Netherlands) 37

Equilibria between multiple spectral forms of bacteriorhodopsin effect of delipidation, anesthetics and solvents on their pH dependence
S. Messaoudi, K.-H. Lee, D. Beaulieu, J. Baribeau and F. Boucher (Canada) 45

The mitochondrial carnitine carrier: characterization of SH-groups relevant for its transport function
C. Indiveri, A. Tonazzi, T. Dierks, R. Krämer and F. Palmieri (Italy, Germany) 53

The phototransformation process in phytochrome. I. Ultrafast fluorescence component and kinetic models for the initial $P_r \rightarrow P_{fr}$ transformation steps in native phytochrome
A.R. Holzwarth, E. Venuti, S.E. Braslavsky and K. Schaffner (Germany) 59

Photoinhibition in intact spinach plants: effect of high light intensities on the function of the two photosystems and on the content of the D1 protein under nitrogen
D. Godde, J. Buchhold, V. Ebbert and W. Oettmeier (Germany) 69

Decrease in heart mitochondrial creatine kinase activity due to oxygen free radicals
G. Yuan, M. Kaneko, H. Masuda, R.B. Hon, A. Kobayashi and N. Yamazaki (Japan) 78

Spectroscopic characterization of the low-light B800-850 light-harvesting complex of *Rhodopseudomonas palustris*, strain 2.1.6
F. Van Mourik, A.M. Hawthornthwaite, C. Vonk, M.B. Evans, R.J. Cogdell, V. Sundström and R. Van Grondelle (Netherlands, UK, Sweden) 85

Rapid Reports

The $g = 2$ multiline EPR signal of the S_2 state of the photosynthetic oxygen-evolving complex originates from a ground spin state
R.D. Britt, G.A. Lorigan, K. Sauer, M.P. Klein and J.-L. Zimmermann (USA, France) 95

The light-harvesting complex II (B800/850) from *Rhodospirillum molischianum* is an octamer
W. Kleinekofort, L. Germeroth, J.A. Van den Broek, D. Schubert and H. Michel (Germany) 102

Review

Conservation of sequences of subunits of mitochondrial complex I and their relationships with other proteins
I.M. Fearnley and J.E. Walker (UK) 105

Regular Papers

Thermoluminescence and flash-induced oxygen yield in herbicide resistant mutants of the D1 protein in *Synechococcus* PCC7942
H.M. Gleiter, N. Ohad, H. Koike, J. Hirschberg,

G. Renger and Y. Inoue (Japan, Germany, Israel) 135

Reduction kinetics of the four hemes of cytochrome c_3 from *Desulfovibrio vulgaris* by flash photolysis
H. Akutsu, J.H. Hazzard, R.G. Bartsch and M.A. Cusanovich (USA) 144

Added subunit β of CF_1 as well as $\gamma/\delta/\epsilon$ restore photophosphorylation in partially CF_1-depleted thylakoids
S. Engelbrecht and W. Junge (Germany) 157

Orientation dependence of the Fe^{2+}-NO and Fe^{3+} EPR signals associated with the non-heme iron of Photosystem II
Y. Deligiannakis, N. Tsekos, V. Petrouleas and B.A. Diner (Greece, USA) 163

The effect of $\Delta\mu_{H^+}$ on the interaction of rotenone with Complex I of submitochondrial particles
A.B. Kotlyar and M. Gutman (Israel) 169

Resonance Raman studies of Rieske-type proteins
D. Kuila, J.R. Schoonover, R.B. Dyer, C.J. Batie, D.P. Ballou, J.A. Fee and W.H. Woodruff (USA) 175

Analysis of the optical absorbance spectra of D1-D2-cytochrome *b*-559 complexes by absorbance-detected magnetic resonance. Structural properties of P680
R. Van der Vos, P.J. Van Leeuwen, P. Braun and A.J. Hoff (Netherlands, Israel) 184

Prediction of transmembrane topology of F_0 proteins from *Escherichia coli* F_1F_0 ATP synthase using variational and hydrophobic moment analyses
S.B. Vik and N.N. Dao (USA) 199

Mitochondrial processing proteinase: a general processing proteinase of spinach leaf mitochondria is a membrane-bound enzyme
A.C. Eriksson and E. Glaser (Sweden) 208

Review

The binding change mechanism for ATP synthase – Some probabilities and possibilities
P.D. Boyer (USA) 215

Regular Papers

Detecting localized proton currents in photophosphorylation by procaine inhibition of the transthylakoid pH-gradient
H. Laasch, C. Ihle and G. Günther (Germany) 251

AHA^- heterodimer of a class-2 uncoupler: pentachlorophenol
A.W. Barstad, D.H. Peyton and P. Smejtek (USA) 262

Co-reconstitution of the H^+-ATP synthase and cytochrome *b*-563/*c*-554 complex from a thermophilic cyanobacterium. High ATP yield and mutual effects on the enzymatic activities
B.E. Krenn, F. Koppenaal, H.S. Van Walraven, K. Krab and R. Kraayenhof (Netherlands) 271

Fumarate reductase activity of bovine heart succinate-ubiquinone reductase. New assay system and overall properties of the reaction
V.G. Grivennikova, E.V. Gavrikova, A.A. Timoshin and A.D. Vinogradov (Russia) 282

Electrochromic spectral band shift of carotenoids in the photosynthetic membranes of *Rhodospirillum molischianum* and *Rhodospirillum photometricum*
K. Matsuura and K. Shimada (Japan) 293

Photo-oxidation of reaction center-bound cytochrome *c* and generation of membrane potential determined by carotenoid band shift in the purple photosynthetic bacterium, *Rhodospirillum molischianum*
K.V.P. Nagashima, S. Itoh, K. Shimada and K. Matsuura (Japan) 297

The effect of lysine- and arginine-modifying reagents on spinach ferredoxin : nitrite oxidoreductase
M. Hirasawa, J.H. De Best and D.B. Knaff (USA) 304

Ca^{2+}-induced, phospholipase-independent injury during reoxygenation of anoxic mitochondria
T. Inoue, Y. Yoshida, M. Nishimura, K. Kurosawa and K. Tagawa (Japan) 313

Förster energy transfer between neighbouring chromophores in C-phycocyanin trimers
T. Gillbro, A.V. Sharkov, I.V. Kryukov, E.V. Khoroshilov, P.G. Kryukov, R. Fischer and H. Scheer (Sweden, Russia, Germany) 321

Influence of the mitochondrial outer membrane and the binding of creatine kinase to the mitochondrial inner membrane on the compartmentation of adenine nucleotides in the intermembrane space of rat heart mitochondria
F.N. Gellerich, Z.A. Khuchua and A.V. Kuznetsov (Germany, Russia) 327

Cumulative Contents, Vol. 1140 335

Author Index 337